IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

In re Application of:	Nicolas Goujon, Johan F. Naes, Rune Voldsbekk	Confirmation:	4412
Serial No.:	10/529,186	Examiner:	Ian Lobo
Filed:	May 1, 2007	Atty. Dkt. No.:	2088.001100
For:	MULTI-PART SEISMIC CABLE	Client Docket:	14.210 PCT US
		Art Unit:	3662

APPEAL BRIEF

Mail Stop Appeal Brief - Patents
Commissioner for Patents
P.O. Box 1450
Alexandria, VA 22313-1450

Sir:

Applicants hereby submit this Appeal Brief to the Board of Patent Appeals and Interferences in response to the "final" rejection dated January 15, 2009. The Notice of Appeal was filed on July 14, 2009 with a request for a pre-Appeal Brief panel review. The decision of the panel review was mailed August 4, 2009. Therefore, the appeal brief is due September 4, 2009. This paper is being electronically filed on September 2, 2009, therefore it is timely filed.

Petition for Extension of Time: If an extension of time is required to enable this paper to be timely filed and there is no separate Petition for Extension of Time filed herewith, this paper is to be construed as also constituting a Petition for Extension of Time Under 37 CFR § 1.136(a) for a period of time sufficient to enable this document to be timely filed.

The fee for filing this Appeal Brief is $540 and the Commissioner is authorized to deduct said fee from Williams, Morgan & Amerson's Deposit Account No. 50-0786/2088.001100JAP.

It is believed that no additional fee is due, however, should any fees under 37 C.F.R. §§ 1.16 to 1.21 be required for any reason, consider this paragraph as authorization to withdraw

the said fees from Williams, Morgan & Amerson, P.C. Deposit Account No. 50-0786/2088.001100JAP.

I. REAL PARTY IN INTEREST

The real party in interest is WesternGeco L.L.C., a wholly owned subsidiary of Schlumberger, Ltd., by virtue of assignment from the inventors.

II. RELATED APPEALS AND INTERFERENCES

There are no related appeals or interferences of which Applicants, Applicants' legal representative, or the Assignee are aware that will directly affect or be directly affected by or have a bearing on the decision in this appeal.

III. STATUS OF THE CLAIMS

Claims 1-10, 13-20, 24, and 29-35 are pending in the case, claims 11-12, 21-23, and 25-28 having previously been canceled. The "final" Office Action rejected each of claims 1-17, 19-32, and 34 as follows:

- claims 1-10, 13-14, 16-17, 24, 29, 30 and 32 as being anticipated under 35 U.S.C. §102(a) and/or (e) by U.S. Letters Patent 6,477,111 ("Lunde"); and
- claims 1, 19-20, 29 and 34 as being anticipated under 35 U.S.C. §102(b) by U.S. Letters Patent 4,398,276 ("Kuppenback").

The Office objected to claims 15, 31, and 33 as allowable but for their dependence from rejected base claims. Applicants appeals from each of the rejections. Applicants appeal from each of the rejections. The claims in this appeal, therefore, are claims 1-10, 13-14, 16-20, 24, and 29-30, 32, and 34-35.

IV. STATUS OF AMENDMENTS

No amendments were submitted after the "final" Office Action.

V. SUMMARY OF CLAIMED SUBJECT MATTER

This section presents a simplified summary of the invention as required by the Rules of Practice and in order to provide a basic understanding of some aspects of the invention. This summary is not an exhaustive overview of the invention. Its sole purpose is to present some concepts in a simplified form as a prelude to the more detailed description that is discussed later.

This invention relates generally to seismic cable systems, and, more particularly, to a robust and reliable seismic cable system. (p. 1, lines 6-7) The following discussion may be broken into three parts. First, there is a brief summary of the technology and issues associated therewith. Second, a brief summary of the invention with reference to the drawings is provided. Third, the language of the independent claims themselves is related to the specification and drawings. References herein are to the application as filed.

A. RELATED ART AND ISSUES

This section of this document introduces various aspects of the art that may be related to various aspects of the present invention as claimed. It provides background information to facilitate a better understanding of the various aspects of the present invention. As the section's title implies, this is a discussion of related art. That such art is related in no way implies that it is also prior art. The related art may or may not be prior art. It should therefore be understood that the following statements are to be read in this light, and not as admissions of prior art.

During ocean bottom, marine seismic surveys, seabed seismic cable systems are deployed to the bed of a sea, lake, river, or marsh. (p. 1, lines 17-22) Seabed seismic cable systems generally are designed to meet two conflicting goals. (p. 1, line 24 to p. 2, line 3) First, the cable system must be robust and resistant to damage. (p. 1, line 24 to p. 2, line 3) Second, the cable system should be sensitive to acoustic vibrations and not compromise the quality of data recorded by the sensor units. (p. 1, line 24 to p. 2, line 3)

Although there are several types of seabed seismic cables, there are generalities in construction. (p. 2, lines 5-12) A seabed seismic cable includes three main elements: stress members, leads, and a sheath. (p. 2, lines 5-12) One or several stress members take the tension that can be applied to the seabed seismic cable during deployment and retrieval operations to protect other elements of the cable. (p. 2, lines 5-12) The leads, which may be electrical or

optical, transmit power and/or data, in analog or digital format, along the cable for collection and processing, *e.g.*, on a survey vessel. (p. 2, lines 5-12) The sheath is a skin, jacket or extrusion matrix protecting the seabed seismic cable against, notably, water ingress. (p. 2, lines 5-12)

One type of seabed cable is known as an "ocean bottom cable" ("OBC"), and is typically equipped with "takeouts." (p. 2, lines 14-18) A full length of conventional OBC is seismic built, the jacket is then opened at the location were the sensors are located, and leads are extracted from the cable to form a take-out and connected to the sensors. (p. 2, lines 14-18) The sensors are then attached to the cable. (p. 2, lines 14-18)

B. BRIEF DESCRIPTION OF THE INVENTION

FIG. 2A, reproduced below, illustrates a seismic cable 110 in accordance with one embodiment of the present invention. (p. 7, lines 4-14) The seismic cable 110 comprises a support cable 205 and a signal cable 210 attached to the support cable 205 at a plurality of points 215 spaced along the length thereof. (p. 7, lines 4-14) In the illustrated embodiment, the signal cable 210 further comprises a plurality of sensor modules 220. (p. 7, lines 4-14) In one embodiment, the spacing of the points 215 is approximately proportional to a length of the sensor modules 220 so that the points 215 are located between each of the sensor modules 220. (p. 7, lines 4-14) However, the present invention is not so limited. In alternative embodiments, the points 215 may be located at any desirable location. (p. 7, lines 4-14) For example, the points 215 may be located between every other sensor module 220 or between successive pluralities of sensor modules 220. (p. 7, lines 4-14) For another example, a plurality of points 215 may be located between each pair of sensor modules 220. (p. 7, lines 4-14)

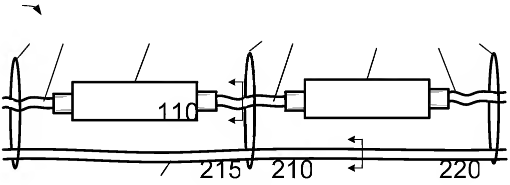


Figure 2A

2C

The present invention facilitates acoustic decoupling of the sensor modules 220—and, hence, the sensors—from the stress member 205, which is rigid and under tension, and therefore improves the data quality recorded by the system 100. (p. 15, lines 8-16) The various 2C embodiments described herein provide a robust cable 110 capable of being subjected to rough handling when the cable 110 is deployed and/or retrieved. (p. 15, lines 8-16) The robust cable 110 is further capable of being subjected to great water depth and pressure. (p. 15, lines 8-16) Although the cable 110 is substantially robust, the cable 110 delivers higher data quality than previous cables. (p. 15, lines 8 to p. 15, lines 19) More particularly, the invention provides mechanical decoupling between the sensor module 220 and the support cable 205, thus freeing the sensor module 220 from the stresses on the stress member 205 and improving data quality; (p. 15, lines 8 to p. 15, lines 19)

C. THE CLAIMS AS RELATED TO THE SPECIFICATION

With respect to the language of the claims, **claims 1 and 29 are independent**. With respect to **claim 1**, a seismic cable (*e.g.*, 110, FIG. 1-FIG. 2A; p. 6, line 22-p. 10, line 6), the invention as claimed comprises:

- a tension support cable (*e.g.*, 205, FIG. 2S- FIG. 2B; p. 7, lines 4-25) capable of absorbing tension during deployment of the seismic cable;
- a signal cable (*e.g.*, 210, FIG. 2A, FIG. 2C; p. 8, line 1-13) attached to a plurality of first points (*e.g.*, 615, FIG. 6; p. 14, lines 1-11) spaced along the length of the support cable at a plurality of second points (*e.g.*, 620, FIG. 6; p. 14, lines 1-11)

spaced along the length of the signal cable to mechanically decouple the signal cable from the tension support cable; and

- at least one sensor module (*e.g.*, 220, FIG. 2A; p. 8, line 15-18) disposed on the signal cable proximate at least one third point (unreferenced, *e.g.*, at the point sensor module 220 is attached to the signal cable 210, as shown in FIG. 2A, FIG. 6), said at least one third point being different than the plurality of second points.

With respect to **claim 29**, a method for assembling a seismic cable (*e.g.*, 110, FIG. 1-FIG. 2A; p. 6, line 22-p. 10, line 6), the invention as claimed comprises:

- attaching a plurality of first points (*e.g.*, 615, FIG. 6; p. 14, lines 1-11) spaced along the length of a tension support cable (*e.g.*, 205, FIG. 2S- FIG. 2B; p. 7, lines 4-25) capable of absorbing tension during deployment of the seismic cable to a signal cable (*e.g.*, 210, FIG. 2A, FIG. 2C; p. 8, lines 1-13) at a plurality of second points (*e.g.*, 620, FIG. 6; p. 14, lines 1-11) spaced along the length thereof, the signal cable having at least one sensor module (*e.g.*, 220, FIG. 2A; p. 8, line 15-18) disposed thereon, the plurality of first points differing from at least one third point (unreferenced, *e.g.*, at the point sensor module 220 is attached to the signal cable 210, as shown in FIG. 2A, FIG. 6) of attachment for at least one sensor module, to mechanically decouple the signal cable from the tension support cable.

There are no "means-plus-function" or "step-plus-function" limitations in the claims. Note that the references in parentheses are not limitations in the claims but relate the claim language to Applicant's disclosure in compliance with the Rules of Practice.

VI. GROUNDS OF REJECTION TO BE REVIEWED ON APPEAL

A. Whether claims 1-10, 13-14, 16-17, 24, 29, 30 and 32 are being anticipated under 35 U.S.C. §102(a) and/or (e) by U.S. Letters Patent 6,477,111 ("Lunde").

B. Whether claims 1, 19-20, 29 and 34 as being anticipated under 35 U.S.C. §102(b) by U.S. Letters Patent 4,398,276 ("Kuppenback").

VII. ARGUMENT

There are two sets of rejections, and both sets are for anticipation. An anticipating reference, by definition, must disclose every limitation of the rejected claim in the same

relationship to one another as set forth in the claim. M.P.E.P. § 2131; *In re Bond*, 15 U.S.P.Q.2d (BNA) 1566, 1567 (Fed. Cir. 1990). Applicants respectfully submit that, when the references and claims are properly construed, neither of the references meets this standard.

A. CLAIMS 1-10, 13-14, 16-17, 24, 29, 30 & 32 ARE NOVEL OVER LUNDE

The Office Action rejected claims 1-10, 13-14, 16-17, 24, 29, 30 and 32 as being anticipated under 35 U.S.C. §102(a) and/or (e) by U.S. Letters Patent 6,477,111 ("Lunde"). The independent claims 1 and 29 recite that the attachments along the two cables are at a plurality of points such that the "signal cable" is "mechanically decoupled" from the "tension support cable". Lunde, on the other, attaches the two cables throughout their length such that they are not mechanically decoupled.

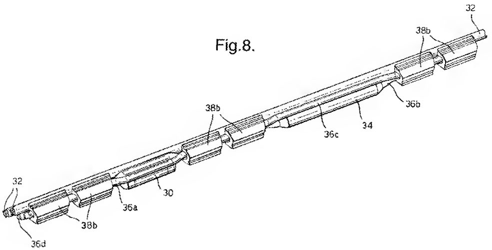
1. <u>The Claims are Novel</u>

As noted, the independent claims 1 and 29 recite that the attachments along the two cables are at a plurality of points such that the "signal cable" is "mechanically decoupled" from the "tension support cable". This frees the sensor module 220 from the stresses on the stress member 205 and improving data quality; (p. 15, lines 8 to p. 15, lines 19)

Lunde, on the other hand, quite clearly mechanically couples the sensor modules to the stress member. This is best seen in the subassembly of Fig. 8 in Lunde, reproduced below, and first discussed in col. 4, lines 9-36. The cable comprises stress members ("tension support cable") 32, optical fiber bundles (*i.e.*, "signal cables") 36, and hydrophone assemblies (*i.e.*, "sensor modules") 30. The cable also includes electronics modules 34 and buoyancy pills 38, neither of which have any counterparts in the claims.

The drawing clearly shows the signal cables 36 are held in contact with the stress members 32. This mechanically couples the sensor module 30 to the stress member. The only place this is not true is at the sensor modules 30, where the signal cables 36 contact the sensor modules 30, which contact the stress members 32. Thus, throughout almost their entire length, the signal cables 36 are directly mechanically coupled to the stress members 32. Although Lunde contains no teaching on this point, this contact is presumably maintained by (1) tension on the signal cables 30, (2) the positioning of the buoyancy pills 38, and (3) compression by other

elements in the cable when sheathed as shown in Fig. 1 and discussed at col. 3, line 62 to col. 4, line 8.



Lunde therefore fails to teach that the attachments along the two cables are at a plurality of points such that the "signal cable" is "mechanically decoupled" from the "tension support cable" as is recited in independent claims 1 and 29. The dependent claims incorporate this limitation by virtue of their dependence through operation of law. 35 U.S.C. §112, ¶4. Claims 1-10, 13-14, 16-17, 24, 29, 30 and 32 are therefore novel over Lunde.

2. <u>The Error in the Rejections</u>

The Office rejected claims 1-17, 19-32, and 34 as anticipated by Lunde even after Applicants pointed out that (1) Lunde, on the other, attaches the two cables throughout their length such that they are not mechanically decoupled, and (2) claims 1 and 29 recite the attachments along the two cables are at a plurality of points such that the signal cable is "mechanically decoupled" from the tension support cable. The Office disputes this construction of Lunde. In particular, the Office states that "...the buoyancy pill (3bc) has openings on either side that would *inherently* allow one to mechanically decouple the signal cable (36) from the support cable (32)." (Office Action dated January 15, 2009, p. 4, emphasis added)

The Office's construction of Lunde is incorrect and is unsupported in the record. Applicants presume that the "openings" to which the Office refers are the unreferenced gaps between the buoyancy pills 38 in, for example, Fig. 2 and Fig. 8. As is apparent from Fig. 8, these gaps do not permit relative crossline movement between the signal cables 36 and the stress

members 32 such that they could break contact and, thus, mechanically decouple. This is particularly true in that the subassembly shown in Fig. 8 is under compression from the sheath 26 and filler materials that surround it as shown in Fig. 2. Note also that these drawings show that the signal and support cables are in almost constant contact, and therefore are mechanically coupled. This, then, immediately refutes the notion that these gaps permit mechanical decoupling in the manner alleged by the Office.

Furthermore, Lunde fails to meet the standard for inherency. Inherency in anticipation requires that the asserted proposition *necessarily* flow from the disclosure. *In re Oelrich*, 212 U.S.P.Q. (BNA) 323, 326 (C.C.P.A. 1981); *Ex parte Skinner*, 2 U.S.P.Q.2d (BNA) 1788, 1789 (Bd. Pat. App. & Int. 1987). "Inherency... may not be established by probabilities or possibilities. The mere fact that a certain thing may result from a given set of circumstances is not sufficient." *Skinner*, 2 U.S.P.Q.2d (BNA) at 1789.

The buoyancy pills 38 would not inherently permit mechanical decoupling because such a consequence does not necessarily flow from the disclosure. As noted above, *as illustrated in Lunde*, the gaps between the buoyancy pills 38 will not permit separation of the signal leads 36 and the stress members 32. The specification also refutes the "inherency" posited by the Office. For example, at one point, Lunde states:

> Additionally, a plurality of buoyancy elements (or "pills") 38, made of skinned polypropylene foam, are moulded into the core 24 between the hydrophone assemblies 30 and the electronics modules 34. The number and density of the buoyancy pills 38 are selected such that their buoyancy effect, combined with that of the kerosene or other fluid in the foam material in the annular gap 28, renders the streamer section 10a substantially neutrally buoyant in water: typically, the density of the buoyancy pills 38 is about 0.6.

(col. 4, lines 27-36) Thus, depending on the buoyancy needs of the individual embodiment, the buoyancy pills 38 conceivably cover the entire length of the both the support cable and the signal cable.

3. <u>Conclusion on Novelty Over Lunde</u>

The buoyancy pills of Lunde therefore do not inherently permit mechanical decoupling, as is evident from Fig. 2 and Fig. 8 thereof—which actually shows a complete lack of mechanical decoupling—and the disclosure at col. 4, lines 27-36—which clearly contemplates a lack of mechanical decoupling. *Oelrich*, 212 U.S.P.Q. at 326. Lunde therefore does not teach all

the limitations of the claims and, more particularly, a "signal cable" that is "mechanically decoupled" from the "tension support cable". Lunde consequently, does not anticipate any of claims 1-10, 13-20, 24, and 29-35. M.P.E.P. §2131; *In re Bond*, 15 U.S.P.Q.2d (BNA) 1566, 1567 (Fed. Cir. 1990).

B. CLAIMS 1, 19-20, 29 AND 34 ARE NOVEL OVER KUPPENBACK

The Office Action rejected claims 1, 19-20, 29 and 34 as being anticipated under 35 U.S.C. §102(b) by U.S. Letters Patent 4,398,276 ("Kuppenback"). Kuppenback does not teach or suggest a "tension support cable" that is "capable of absorbing tension during deployment of the seismic cable" as each of the independent claims 1 and 29 now recite. The alleged support cable of Kruppenbach (*i.e.*, line 30) does not operate during retrieval. Kruppenbach's line operates in that capacity only during retrieval.

1. <u>The Claims are Novel</u>

Each of the independent claims 1 and 29 recites suggest a "tension support cable" that is "capable of absorbing tension during deployment of the seismic cable". Each of the dependent claims incorporates this limitation by virtue of their dependence through operation of law. 35 U.S.C. §112, ¶4.

Kuppenback teaches only one thing about deployment—that "[g]eophone sensor strings of the prior art must be positioned ...by time-consuming and laborious manual steps." (col. 1, lines 19-21) Both the "Abstract" and the summary (col. 1, line 30 to col. 2, line 25) both focus entirely on retrieval to the exclusion of deployment. Kuppenback therefore cannot be construed to teach or suggest anything significant relative to the present claims because they recite a "tension support cable" that is "capable of absorbing tension during deployment of the seismic cable".

2. <u>The Error in the Rejections</u>

The Office alleges that the lien 30 of Kuppenback meets the subject limitation of a "tension support cable" that is "capable of absorbing tension during deployment of the seismic cable". However, the alleged support cable of Kuppenback (*i.e.*, line 30) does not operate during

retrieval. Kuppenback's line operates in that capacity only during retrieval. As is noted above, Kuppenback teaches nothing of significance regarding deployment.

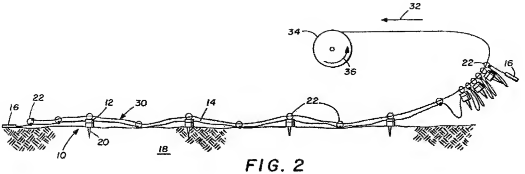


FIG. 2

Applicants note that the Office has not alleged that Kuppenback's line meets the stated limitation. "[I]t is incumbent upon the examiner to identify wherein each and every facet of the claimed invention is disclosed in the applied reference." *Ex parte Levy*, 17 U.S.P.Q.2d (BNA) 1461, 1462 (Pat. & Tm. Off. Bd. Pat. App. & Int. 1990). The Office apparently believes that this burden does not apply to this limitation because "...it is irrelevant whether the cable 30 operates only during retrieval since this has no bearing on the specific claim limitations." (Office Action dated January 15, 2009, p. 4) However, Applicants records show that the subject limitation quoted above was introduced by amendment in the paper entitled "Response to Office Action Dated March 6, 2008", filed June 30, 2008.

Accordingly, the statement that the line 30 operates only during retrieval is *entirely* relevant because it necessarily excludes the Office's position. If the line 30 operates *only* during retrieval, that means it does not operate in the prescribed manner during deployment. If it does not operate during deployment, it cannot meet the limitations of the claims. The Office therefore errs in its dismissal of the argument because the dismissal is predicated on a misapprehension of the significance of the argument.

3. <u>Conclusion on Novelty Over Kuppenback</u>

Each of the independent claims 1 and 29 recites that the "tension support cable" is "capable of absorbing tension during deployment of the seismic cable". Each of the dependent claims 19-20 and 34 incorporate this limitation from the respective independent claim from which they depend. 35 U.S.C. §112, ¶4. Kuppenback does not teach or suggest a "tension

support cable" that is "capable of absorbing tension during deployment of the seismic cable" as each of the independent claims 1 and 29 now recite. The alleged support cable of Kuppenback (*i.e.*, line 30) does not operate during retrieval. Kuppenback's line operates in that capacity only during retrieval.

Accordingly, each of the claims does in fact either recite or incorporate the limitation that the "tension support cable" is "capable of absorbing tension during deployment of the seismic cable". Kuppenback fails to disclose this limitation. Kuppenback therefore fails to anticipate any of claims 1, 19-20, 29 and 34. M.P.E.P. § 2131; *In re Bond*, 15 U.S.P.Q.2d (BNA) 1566, 1567 (Fed. Cir. 1990).

D. CONCLUDING REMARKS

Applicants respectfully submit that all claims are in condition for allowance. With respect to claims 1-10, 13-14, 16-17, 24, 29, 30 and 32, Lunde fails to teach a "signal cable" that is "mechanically decoupled" from the "tension support cable". The Office's position to the contrary is based on a construction of Lunde repudiated on the face thereof. With respect to claims 1, 19-20, 29 and 34, Kuppenback fails to teach a "tension support cable" that is "capable of absorbing tension during deployment of the seismic cable". The Office argument against that fact is predicated on a misapprehension of the facts. Accordingly, claims 1-10, 13-14, 16-20, 24, and 29-30, 32, and 34-35 are allowable over the art of record.

VIII. CLAIMS APPENDIX

The claims that are the subject of the present appeal are set forth in the attached "Claims Appendix." The pending claims that are not subject to this appeal are also set forth for the convenience of the Board.

IX. EVIDENCE APPENDIX

There is no separate Evidence Appendix for this appeal.

X. RELATING PROCEEDINGS APPENDIX

There is no Related Proceedings Appendix for this appeal.

XI. CONCLUSION

Wherefore, Applicants pray that the rejections be REVERSED and the claims be allowed to issue.

The undersigned may be contacted at (713) 934-4053 with respect to any questions, comments or suggestions relating to this appeal.

Date: September 2, 2009

Respectfully submitted,

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Claims Appendix
(Claims in Issue)

1. A seismic cable, comprising:

a tension support cable capable of absorbing tension during deployment of the seismic cable;

a signal cable attached to a plurality of first points spaced along the length of the support cable at a plurality of second points spaced along the length of the signal cable to mechanically decouple the signal cable from the tension support cable; and

at least one sensor module disposed on the signal cable proximate at least one third point, said at least one third point being different than the plurality of second points.

2. The seismic cable of claim 1, further comprising a first sheath enclosing the support cable and the signal cable.

3. The seismic cable of claim 2, wherein the first sheath comprises at least one of is a skin, a jacket or an extrusion matrix.

4. The seismic cable of claim 1, wherein the support cable includes a plurality of strengthening members.

5. The seismic cable of claim 4, wherein the strengthening members are cabled by a second sheath.

6. The seismic cable of claim 1, wherein the support cable includes at least one of a signal lead and a power lead.

7. The seismic cable of claim 6, further comprising an electronics module powered over the power lead and capable of transmitting data over the signal lead.

8. The seismic cable of claim 7, wherein the support cable is sectioned.

9. The seismic cable of claim 1, wherein the signal cable includes a plurality of leads cabled by a third sheath.

10. The seismic cable of claim 1, wherein the signal cable includes at least one strengthening member.

11-12. (Canceled)

13. The seismic cable of claim 1, further comprising:

a plurality of sensor modules electrically connected to and distributed along the signal cable; and

a plurality of electronics modules by which the signal cable is attached to the support cable at the second ~~first~~ points.

14. The seismic cable of claim 13, wherein the electronics modules are electrically connected to the signal cable at the plurality of second points and mechanically connected to the support cable.

15. The seismic cable of claim 1, wherein the signal cable is attached to the support cable by a zipper mechanism.

16. The seismic cable of claim 1, wherein the plurality of second points are spaced along the length of the signal cable in proportion to a length of the sensor module.

17. The seismic cable of claim 16, wherein the plurality of second points are positioned between adjacent sensor modules.

18. The seismic cable of claim 16, wherein the separations are created by pulling a rip cord fabricated in the seismic cable to detach the signal cable from the support cable.

19. The seismic cable of claim 1, further comprising a plurality of arms mechanically affixed to the support cable and rotationally connected to the signal cable to attach the signal cable to the support cable at the plurality of second points.

20. The seismic cable of claim 19, wherein the arms are at least one of rigid and semi-rigid arms; mechanically fixed by a plurality of clamps; or rotationally connected by a bearing.

21-23. (Canceled)

24. The seismic cable of claim 1, further comprising a plurality of sensor modules electrically connected to and distributed along the signal cable and by which the support cable and the signal cable are joined, wherein the support cable passes through a groove in the sensor modules.

25-28. (Canceled)

29. A method for assembling a seismic cable, comprising attaching a plurality of first points spaced along the length of a tension support cable capable of absorbing tension during deployment of the seismic cable to a signal cable at a plurality of second points spaced along the length thereof, the signal cable having at least one sensor module disposed thereon, the plurality of first points differing from at least one third point of attachment for at least one sensor module, to mechanically decouple the signal cable from the tension support cable.

30. The method of claim 29, wherein attaching the support cable to the signal cable includes mechanically connecting an electronics module to the support cable and electrically connecting the electronics module to the signal cable.

31. The method of claim 29, wherein attaching the support cable to the signal cable includes zipping the signal cable to the support cable at the first and second points.

32. The method of claim 29, wherein attaching the support cable to the signal cable includes separating the support cable and the signal cable between the second points.

33. The method of claim 32, wherein separating the support cable and the signal cable includes pulling a rip-cord.

34. The method of claim 29, wherein attaching the support cable to the sensor includes mechanically affixing at least one of a rigid and a semi-rigid arm to the support cable and rotationally connecting the respective rigid or semi-rigid arm to the signal cable at each of the second points.

35. (Canceled)